

U.S.S.N. 10/004,614

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Claim Amendments

There are no claim amendments.

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Claims as Previously Presented

1. (previously presented) A semiconductor wafer dry etching system comprising:

a plasma chamber;

a vertically moveable wafer lifter to hold a semiconductor wafer in a face down processing position during plasma processing at a top of the plasma chamber, the semiconductor wafer and the wafer lifter supplied with an electrical bias during plasma processing;

wherein the wafer lifter further comprises sidewalls defining a first diameter greater than a diameter of the semiconductor wafer and a bottom portion having a circular opening therein, said circular opening having a second diameter less than the first diameter and less than the diameter of the semiconductor wafer; and,

wherein the semiconductor wafer periphery rests on an inner top surface of the bottom portion defining the circular opening to expose only the semiconductor wafer processing surface face

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down during plasma processing.

2. (cancelled)

3. (previously presented) The system of claim 1, wherein the electrical bias is supplied through a wafer chuck in contact with the semiconductor wafer and the wafer lifter.

4. (cancelled)

5. (previously presented) The system of claim 1, wherein the wafer lifter is vertically movable between a lower position to an upper position, where the lower position promotes loading of the wafer to the wafer lifter, and the upper position enables the supply of the electric bias supply through the wafer chuck.

6. (cancelled)

7. (original) The system of claim 1, further comprising one or more coils to induce a varying magnetic field within the chamber.

8. (original) The system of claim 7, wherein the one or more

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coils comprise one or more induction coils.

9. (original) The system of claim 7, wherein the one or more coils comprise one or more electromagnetic coils.

10. (original) The system of claim 7, further comprising one or more multi-pole magnets cooperating with the one or more coils to assist inducement of the varying magnetic field within the chamber.

11. (original) The system of claim 1, further comprising a dielectric window at a bottom of the chamber.

12. (previously presented) A semiconductor wafer dry etching system comprising:

a plasma chamber;

a wafer lifter to hold a semiconductor wafer exposing a face down processing surface at a top of the plasma chamber during plasma processing, the wafer lifter having sidewalls defining a first diameter greater than a diameter of the wafer and a bottom portion having a hole therein having a second diameter less than

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the first diameter and less than the diameter of the wafer;

wherein the wafer periphery is positioned on an inner top surface of the bottom portion to expose only the face down processing surface through the hole therein; and,

a bias supply to bias a wafer chuck contacting the backside of the wafer and contacting the wafer lifter during plasma processing.

13. (cancelled)

14. (cancelled)

15. (original) The system of claim 12, wherein the wafer lifter is vertically movable between a lower position to an upper position, where the lower position promotes loading of the wafer, and the upper position enables the bias supply to electrically couple with the wafer for biasing thereof.

16. (original) The system of claim 12, further comprising one or more coils to induce a varying magnetic field within the chamber.

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17. (original) The system of claim 16, wherein the one or more coils comprise one or more induction coils coupled.

18. (original) The system of claim 16, further comprising one or more magnets cooperating with the one or more coils to assist inducement of the varying magnetic field within the chamber.

19. (original) The system of claim 12, further comprising a dielectric window at a bottom of the chamber.

20. cancelled

21. (previously presented) The system of claim 12, wherein the inner top surface of the bottom portion of the wafer lifter is substantially parallel to an outer bottom surface of the bottom portion of the wafer lifter, the inner top surface and the outer bottom surface of the bottom of the wafer lifter substantially perpendicular to the sidewalls of the wafer lifter defining the first diameter greater than the diameter of the wafer.

22. (previously presented) A semiconductor wafer dry etching system comprising:

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a plasma chamber;

a vertically moveable wafer lifter positioned over a plasma at a top of the plasma chamber to hold a semiconductor wafer in a face down processing position during plasma processing, the semiconductor wafer and the wafer lifter supplied with an electrical bias during plasma processing sufficient to attract polymer particles;

wherein the wafer lifter further comprises sidewalls defining a first diameter greater than a diameter of the semiconductor wafer and a bottom portion having a circular opening therein, said circular opening having a second diameter less than the first diameter and less than the diameter of the semiconductor wafer; and,

wherein the semiconductor wafer periphery rests on an inner top surface of the bottom portion defining the circular opening to expose only the semiconductor wafer processing surface face down during plasma processing while covering a periphery and side portion of said semiconductor wafer.